

Appl. No. 10/827,057
Amendment dated June 7, 2005
Reply to Office Action of April 7, 2005

AMENDMENTS TO THE CLAIMS

1. (currently amended): A brake module comprising:
- a first circuit of pressurized brake fluid;
 - a second circuit of pressurized brake fluid;
 - a third circuit of pressurized brake fluid;
 - a first set of brake actuators operated by the application of pressurized brake fluid;
 - a second set of brake actuators operated by the application of pressurized brake fluid;
 - a first fluid separator unit coupled to said first circuit and said second circuit for substantially preventing the intermixing of pressurized brake fluid between said first circuit and said second circuit, said first fluid separator unit having a moveable pressure boundary which enables, through movement thereof, said second circuit of pressurized brake fluid to selectively act upon said first set of brake actuator actuators in response to said first circuit of pressurized brake fluid acting upon said first fluid separator unit; and
 - a second fluid separator unit coupled to said first circuit and said third circuit for substantially preventing the intermixing of pressurized brake fluid of said first circuit and said third circuit, said second fluid separator unit having a moveable pressure boundary which enables, through movement thereof, said third circuit of pressurized brake fluid to selectively act upon said second set of brake actuator actuators in response to said first circuit of pressurized brake fluid acting upon said second fluid separator unit;
- wherein said first circuit includes ~~at least one~~ a proportional valve for selectively controlling said pressurized brake fluid of first circuit acting on said first and said second fluid separator units.

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2. The brake module of claim 1 wherein said ~~at least one~~ proportional valve comprises a ~~single~~ three-way proportional valve.

3-8. (withdrawn)

9. (currently amended) A vehicle braking system comprising:

a brake module, said brake module comprising:

a first circuit of pressurized brake fluid;

a second circuit of pressurized brake fluid;

a third circuit of pressurized brake fluid;

a first set of brake actuators operated by the application of pressurized brake fluid;

a second set of brake actuators operated by the application of pressurized brake fluid;

a first fluid separator unit coupled to said first circuit and said second circuit for substantially preventing the intermixing of pressurized brake fluid between said first circuit and said second circuit, said first fluid separator unit having a moveable pressure boundary which enables, through movement thereof, said second circuit of pressurized brake fluid to selectively act upon said first set of brake actuators in response to said first circuit of pressurized brake fluid acting upon said first fluid separator unit;

a second fluid separator unit coupled to said first circuit and said third circuit for substantially preventing the intermixing of pressurized brake fluid of said first circuit and said third circuit, said second fluid separator unit having a moveable pressure boundary which enables, through movement thereof, said third circuit of pressurized brake fluid to selectively act upon said second set of brake actuators in response to said first circuit of pressurized brake fluid acting upon said second fluid separator unit;

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wherein said first circuit includes ~~at least one~~ a proportional valve for selectively controlling said pressurized brake fluid of said first circuit acting on said first and said second fluid separator units; and
a second brake module wherein said brake module and said second brake module cooperatively apply a braking torque to said first set and said second set of brake actuators.

10. (original) The vehicle braking system of claim 9 wherein said second brake module comprises an anti-lock braking module.

11. (original) The vehicle braking system of claim 9 wherein said second brake module comprises a traction control module.

12. (original) The vehicle braking system of claim 9 wherein said second brake module comprises a vehicle stability control module.

13. (original) The vehicle braking system of claim 9 wherein said ~~at least one~~ proportional valve comprises a ~~single~~ three-way proportional valve.

14-30. (withdrawn)

31. (currently amended) A vehicle braking system for cooperatively applying a portion a braking torque in a regenerative braking system, said brake module comprising:

a brake module, said brake module comprising:

a first circuit of pressurized brake fluid;

a second circuit of pressurized brake fluid;

a third circuit of pressurized brake fluid;

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a first set of brake actuators operated by the application of pressurized brake fluid;

a second set of brake actuators operated by the application of pressurized brake fluid;

a first fluid separator unit coupled to said first circuit and said second circuit for substantially preventing the intermixing of pressurized brake fluid between said first circuit and said second circuit, said first fluid separator unit having a moveable pressure boundary which enables, through movement thereof, said second circuit of pressurized brake fluid to selectively act upon said first ~~set of~~ brake actuator actuators in response to said first circuit of pressurized brake fluid acting upon said first fluid separator unit;

a second fluid separator unit coupled to said first circuit and said third circuit for substantially preventing the intermixing of pressurized brake fluid of said first circuit and said third circuit, said second fluid separator unit having a moveable pressure boundary which enables, through movement thereof, said third circuit of pressurized brake fluid to selectively act upon said second ~~set of~~ brake actuator actuators in response to said first circuit of pressurized brake fluid acting upon said second fluid separator unit;

wherein said first circuit includes ~~at least one~~ a proportional valve for selectively controlling said pressurized brake fluid of said first circuit acting on said first and said second fluid separator units;

a second brake module wherein said brake module and said second brake module cooperatively apply a braking torque to said first set and said second set of brake actuators; and

a control module for receiving sensed signals and controlling operations of said brake module.

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32. (original) The braking system of claim 31 wherein said control module controls operations of said second brake module.

33. (original) The braking system of claim 31 further comprising a second control module for controlling operations of said second brake module, said second control module is communicable with said first control module for providing braking torque to said vehicle.

34. (original) The braking system of claim 33 further comprising a powertrain control module for controlling a regenerative braking portion of the vehicle, said powertrain control module is in communication with said control module and said second control module for cooperatively controlling braking torque to said vehicle.